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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,463

12/04/2006

Alfred Siggel

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EXAMINER

KOSLOW, CAROL M

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

02/02/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,463	<b>Applicant(s)</b> SIGGEL ET AL.	
	<b>Examiner</b> C. Melissa Koslow	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-8 is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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This action is in response to applicants' amendment of 11 December 2008. The objection to the oath is withdrawn due to the ADS filed 29 April 2005. The amendments to the specification have overcome the objection over the specification and disclosure. The amendments to the claims have overcome the objection over claim 2 and the 35 USC 102(b) rejections of claims 1, 3-6 and 8. Applicant's arguments with respect to the 35 USC 103(a) rejection have been fully considered and are persuasive. The Examiner was unable to find an a tetraalkyl ammonium tetrafluoroborate ionic liquid that meets the conventional definition of ionic liquid. This rejection has been withdrawn. Applicant's arguments with respect to the remaining rejections have been fully considered but they are not persuasive.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 5,418,682 or JP 2000-86671.

These references teach tetraalkyl ammonium tetrafluoroborate containing electrolytes and their use in capacitors and electrochemical cells.

The example in column 5 of U.S. patent 5,418,682 teaches producing trimethylbutyl ammonium tetrafluoroborate or trimethylpropyl ammonium tetrafluoroborate by mixing trimethylbutyl ammonium chloride or trimethylpropyl ammonium chloride with sodium tetrafluoroborate in methanol, an organic solvent which is completely miscible water, at about 55°C, separating the resulting sodium chloride and drying the trimethylbutyl ammonium tetrafluoroborate or trimethylpropyl ammonium tetrafluoroborate. The molar ratio of tetraalkyl ammonium chloride to sodium tetrafluoroborate is about 1:1.3, which falls within the claimed

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range. This is the claimed process and thus the resulting salts must inherently be non-corrosive in electrochemical cells and capacitors and have an sodium chloride content that falls within the claimed range, absent any showing to the contrary. The patent teaches using the taught salt in capacitors, which means it teaches the capacitor of claim 12.

The translation of JP 2000-86671 teaches producing tetraalkyl ammonium tetrafluoroborate, where the alkyl groups contain independently from 1-4 carbon atoms by mixing a tetraalkyl ammonium halide with sodium tetrafluoroborate in a lower aliphatic alcohol, such as methanol, ethanol or propanol, which are organic solvents which are completely miscible with water, at a temperature in the range of 0-50°C, separating the resulting sodium halide and drying the tetraalkyl ammonium tetrafluoroborate. The molar ratio of tetraalkyl ammonium chloride to sodium tetrafluoroborate is about 1:1 to 1:1.5, which falls within the claimed range. This is the claimed process and thus the resulting salts must inherently be non-corrosive in electrochemical cells and capacitors, absent any showing to the contrary. The examples teach a residual halide ion content, which would correspond to the residual sodium halide content, or 272ppm or 255 ppm. These values fall within the claimed ranges. The reference teaches using the taught salt in capacitors, which means it teaches the capacitor of claim 12.

The rejected claims are all product-by-process claims. The taught tetraalkyl ammonium tetrafluoroborate containing electrolytes appear to be identical to those claimed. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made

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by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The references teach the claimed products and capacitors.

Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-87574.

The translation of JP 10-87574 teaches producing tetraalkyl ammonium tetrafluoroborate, where the alkyl groups contain independently from 1-5 carbon atoms by mixing a tetraalkyl ammonium halide with lithium tetrafluoroborate in a lower aliphatic alcohol, such as methanol, ethanol or propanol, which are organic solvents which are completely miscible water, at room temperature, separating the resulting lithium halide and drying the tetraalkyl ammonium tetrafluoroborate. The molar ratio of tetraalkyl ammonium halide to lithium tetrafluoroborate is 1;1 which falls within the claimed range. This is the claimed process and thus the resulting salt must inherently be non-corrosive in electrochemical cells and capacitors and have a lithium chloride content that falls within the claimed range, absent any showing to the contrary. The rejected claims are all product-by-process claims. The taught tetraalkyl ammonium tetrafluoroborate containing electrolytes appear to be identical to those claimed. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The reference teaches the claimed product.

The fact that the solvent of claim 2 has been inserted into claim 1 does not show that the claimed tetraalkyl ammonium tetrafluoroborate containing electrolytes and the taught tetraalkyl

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ammonium tetrafluoroborate containing electrolytes are different and non-obvious from each other. The rejections are maintained.

Claims 1 and 3-8 are allowable over the cited art of record.

The claimed process is not taught or suggested by the cited art of record in that there is no suggestion or teaching in the art to replace the solvents in the taught processes with those claimed..

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/cmk/  
February 2, 2009

/C. Melissa Koslow/  
Primary Examiner  
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